

ABSTRACT OF THE DISCLOSURE

5 A setup planning technique is provided in which a family of parts to be
manufactured is identified, and the setup constraints imposed by the various bending
operations in the part family are determined. The setup constraints may define or
describe spatial constraints on the sizes and locations of various tooling stages in the
setup. After identifying setup constraints, setup plans are generated that satisfy all
setup constraints. Any setup plan that satisfies all setup constraints may then be
utilized to accommodate every part in the part family. Constraint propagation
10 techniques may be utilized to identify compatible setup constraints and create setup
plans. According to the various features and aspects of the invention, dissimilar sheet
metal parts can share setups, and the need for extra tooling and fixturing may be
minimized. Further, the present invention provides potential savings over state-of-
the-art systems, and increases production capability and overall through-put of
manufacturing facilities.